at least cover the social cost of producing the services they use, protects competitors from anti-competitive prices, and protects customers of basic services from cross-subsidies to competitive services. NCTA's expert in this proceeding, Dr. Leland Johnson, has expressed clear agreement with my position on the use of incremental cost as the appropriate price floor for video services and as a standard to prevent cross-subsidy of video services:

> "We need not dwell on past bitter controversies about how common costs should be allocated... The critical consideration is that so long as each service bears no less than its incremental cost, no subsidy would flow from one to the other." (p. 7)

Hence, it is disappointing to see Dr. Johnson support a cost allocation scheme that surely has, as its main benefit, protecting cable operators from increased competition. His support is especially ironic, given that basic cable ratepayers have no protection whatever from cross-subsidizing cable entry into local exchange telephone services, even when they use common "loop plant" to do so.

6. To say that LRIC is the relevant price floor for video and other unregulated services does not mean that the recovery of all common costs should be or would be shifted to traditional telephony services; indeed, quite the contrary is true. As a general proposition,

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Baumol, William J., Michael Koehn and Robert Willig, "How Arbitrary is "Arbitrary"? - or, Toward the Deserved Demise of Full Cost Allocation" in Public Utilities Fortnightly 120(5), Sept. 13, 1987, page 16.

Brown, Stehpen J. and David S. Sibley. The Theory of Public Utility Pricing. New York: Cambridge University Press, 1986; pages 44-60.

Hill, Jordan Jay and Ronald Braeutigam. Price Level Regulation for Diversified Public Utilities. Norwell Mass: Kluwer Academic Publishers, 1989; pages 48-49.

Kahn, Alfred and William B. Shew. "Current Issues in Telecommunications Regulation: Pricing" in Yale Journal on Regulation 4(2), Spring 1987; pages 191-256.

Mitchell, Bridger M. and Ingo Vogelsang. Telecommunications Pricing: Theory and Practice. New York: Cambridge University Press, 1991; pages 139-140.

Sherman, Roger. The Regulation of Monopoly. New York: Cambridge University Press, 1989; pages 80-86.

LECs will price to market conditions, to maximize the contribution of video and other new services to common costs. These market forces are a far better and more effective "allocator" of common costs than any administratively prescribed method. Indeed, it will always be true that pricing to market will increase the contribution of competitive services to common costs above and beyond what could be achieved under any common cost allocation requirement, especially one as restrictive as the proposed uniform fixed allocation factor.

7. Since it is well established that market forces are the most efficient determinant of the relative contribution of services to the common costs of those services, the only conceivable rationale for imposing cost allocation regulations is that they are necessary to prevent cross-subsidization of unregulated services by regulated services. However, given the pure price cap regulation of interstate services, Pacific Bell has no incentive to cross-subsidize unregulated services. And, given the current price cap regulation of basic exchange services by the California Public Utilities Commission, Pacific Bell has no ability to cross-subsidize interstate services by raising the price of regulated intrastate services. Indeed, this Commission should recall that the current rates for basic residential telephone service in California are well below their long-run incremental cost of service, so those services are currently being subsidized. Moreover, it is inconceivable that the California Public Utilities Commission – or any other state utility commission would allow residential rates to rise to a level at which basic ratepayers would subsidize video services. To the contrary, most state regulators would favor policies that, by over-allocating costs to video and other broadband services, could be used to justify reductions in basic service rates, which are not now compensatory. Imposing requirements that new, competitive services carry a disproportionate burden of common costs is a self-defeating policy, though, because it can raise prices above market levels, eliminating the economic incentive for investment in multi-purpose telecommunications networks.

C. Uniform Fixed Factor Allocation of Common Costs

8. While any rule for allocating common costs is arbitrary, the proposed uniform fixed factor allocation of 50% is especially problematic because it ignores the significant differences in network architectures being tested and deployed for video services, including hybrid fiber coax (HFC), switched digital video (SDV), and asymmetric digital subscriber line (ADSL). Each of these architectures employs common loop facilities, but to very different degrees. Moreover, there are substantial differences in the cost structures of these alternative technologies. Imposing a uniform fixed allocation factor on all technologies would distort the economic incentives and signals that ought to guide the development and adoption of these competing technologies.

9. A uniform fixed factor allocation rule would be especially harmful if cable companies attempt to use the resulting cost allocations to constrain the pricing of LEC-provided video programming services, which is their obvious objective in these proceedings. Pricing restrictions based on arbitrary cost allocations can greatly deter competition when a firm is entering new lines of business or attempting to compete with a well-established competitor.[5] This would be precisely the case with LECs attempting to compete with existing cable TV operators in selling video programming services to households. If it is the case that the market price of a LEC's video transport service lies above LRIC but below a price that incorporates

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[5] The use of "fully distributed cost" – i.e., common cost allocation for pricing purposes – in surface freight transportation by the Interstate Commerce Commission over several decades wreaked great harm on the railroad industry, at an enormous cost to consumers and taxpayers. In an attempt to subsidize the rates for agricultural commodities and excess branch lines, the I.C.C. kept rates for manufactured and other high-value goods at or above their FDC, thanks, in no small part, to effective lobbying by the trucking industry. Consequently, huge amounts of traffic were diverted off the rails and into motor carriers. After the Staggers Act of 1980, the Commission adopted incremental costs as a pricing floor, enabling railroads to lower their rates to better compete with trucks and increase the contribution of truck-competitive traffic to their common costs. The situation in surface freight transportation is highly analogous to a local exchange carrier offering video services in competition with cable TV companies.

the 50% fixed factor allocation, then the LEC could realize some contribution to common costs by pricing initially near LRIC. As the LEC's market penetration into video and other advanced broadband services increases, the contribution of those services to common costs will grow. Alternatively, if required to price at a level that recovers 50% of common loop costs, a LEC might find no market for its video transport or other broadband services and, therefore, would earn no contribution towards the common costs of the new network. The resulting loss of video transport revenues and their contribution to the common costs of the network would reduce the economic incentives of deploying a broadband network to residential customers and deprive basic ratepayers of the scope economies that might otherwise have been achieved.

10. Hence, if the Commission adopts any form of common cost allocation in this proceeding, it should be clear that it does not intend that these cost allocations be used to limit the pricing flexibility of LECs in offering video or other unregulated services. Otherwise, these services are not unregulated. So long as the prices of unregulated services cover their incremental costs, the Commission should allow competition and market conditions to determine their respective contributions to common costs. Imposing a uniform fixed allocation factor would put LECs at a serious competitive disadvantage relative to their competitors, including cable companies and new entrants into local exchange services, none of which is required to allocate common costs among services.

D. Choice of Common Cost Allocators

11. If, in spite of the negative effects of common cost allocation, the Commission decides to require some allocation of common costs to unregulated services, it is imperative that the allocation of common costs be based on factors which do not over-allocate common costs to those services and which recognize the significant differences among LECs. Given the

significant differences in the cost structures of the alternative technologies and network architectures being deployed, LECs should be allowed flexibility in the allocation method they employ. While some LECs may decide that a fixed factor allocator is acceptable (e.g., SNET in this proceeding), imposing any uniform allocation method on all LECs could distort the economic signals that ought to guide the development and adoption of these competing technologies.

12. If common costs must be allocated, then the inefficiencies of arbitrary allocation can be minimized to the extent that the cost allocation method most closely approximates the long-run incremental costs of each service or group of services. One such method is the use of "directly assignable costs" as an allocator of non-assignable costs. In unregulated industries, well-managed firms no longer allocate common costs to individual products: the performance of an individual product is typically evaluated by its contribution to common costs and profit. In some cases, though, firms may display product or line-of-business reports that do "allocate" common costs, in which case a prevalent method of allocating common costs is in proportion to their direct costs.[6] Note that these "allocations" are used internally for planning and control purposes and not for pricing in competitive situations.[7]

13. Allocating common costs by the direct cost method more nearly approximates market pricing and, therefore, sends better signals to those making technology choices. In light of the significant differences in the cost structures of competing broadband technologies, the use of a

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[6] Direct costs are frequently used as the basis for overhead application as, "[t]he application base should be the best available measure of the cause and effect relationships between overhead costs and production volume." See, Charles T. Horngren and George Foster, Cost Accounting: A Managerial Emphasis. Simon & Schuster, 1989, p. 98.

[7] Id. p. 308. Companies are using the contribution approach to pricing in situations where they are, for example: (1) determining appropriate response to competition; (2) making product mix decisions; and (3) setting the price on a new product.

direct cost-based allocation of common costs would automatically incorporate those cost differences. If one technology can produce video or other new services at a lesser incremental cost than a competing technology, allocating fewer of the common costs to those services would reduce the inefficiency caused by the cost allocation.

14. The use of a direct cost-based allocator of common costs also reduces the potential competitive harm of cost allocation. As local exchange, interexchange, video services and other telecommunications markets are opened to full competition, continuation of the asymmetric regulation of LECs will impose a growing competitive disadvantage. Scope economies and common costs are common to all telecommunications facilities. The more different services any given carrier provides, the greater the potential for scope economies and the larger common costs as a share of total costs. If only LECs are required to allocate common costs in some prescribed way, while their competitors can simply price to market, earning whatever contributions to common costs the market dictates, LECs will not be able to compete on an equal footing.

I declare under penalty of perjury that the foregoing is true and correct. Executed on June 11, 1996, at Berkeley, California.

Robert G. Harris

Attachment II

Attachment II

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In re Applications of	)	
	)	
Pacific Bell	)	
	)	
For authority pursuant to Section 214 of the Communications Act of 1934, and Section 63.01 of the Commission's Rules and Regulations to construct and maintain advanced telecommunications facilities to provide video dialtone services to selected communities in Orange County, California, the southern San Francisco Bay area, California, the Los Angeles, California areas, and the San Diego, California area.	)	File Nos. W-P-C 6913 W-P-C 6914 W-P-C 6915 W-P-C 6916

OPPOSITION TO PETITIONS TO DENY AND REPLY COMMENTS OF PACIFIC BELL

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Date: February 28, 1994

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In re Applications of PACIFIC BELL For authority pursuant to Section 214 of the Communications Act of 1934, and Section 63.01 of the Commission's Rules and Regulations to construct and maintain advanced telecommunications facilities to provide video dialtone services to selected communities in Orange County, California, the southern San Francisco Bay area, California, the Los Angeles, California area, and the San Diego, California area.	)	File Nos. W-P-C-6913 W-P-C-6914 W-P-C-6915 W-P-C-6916

DECLARATION OF ROBERT G. HARRIS

I, Robert G. Harris, declare the following:

1. I submitted testimony in support of Pacific Bell's Section 214 Applications to the Commission. This testimony was attached to the 214 Applications as Exhibit 3. I declare under penalty of perjury that such testimony was and is true and correct. My qualifications and professional experience were included as Appendix 1 to my initial report.

2. I have reviewed the pleadings by the California Public Utilities Commission, the Ad Hoc Telecommunications Users Committee ("Ad Hoc"), Cablevision Industries, Inc., Comcast Cable Communications Inc., Cox Enterprises, Century Communications Corporation, California Bankers Clearing House, the City and County

of Los Angeles, the California Cable Television Association and the National Cable Television Association. I have also reviewed the declarations/affidavits of their respective experts attached to their pleadings.

3. The purpose of this declaration is to respond to some of the economic and empirical arguments raised against Pacific Bell's proposed deployment of broadband network capacity in four California metropolitan areas. In the next three sections of this declaration, I will respond to Dr. Leland Johnson (Section A.), Terry Murray (Section B.) and Patricia Kravtin (Section C.). I will not respond separately to the declaration of Dr. Lee Selwyn, since it is virtually identical to the declaration submitted by his partner, Ms. Kravtin.

A. Testimony of Dr. Leland Johnson

4. Dr. Johnson expresses clear agreement with my position on the use of incremental cost as the appropriate price floor for video services and as a standard to prevent cross-subsidy of video services. He correctly defines incremental cost as the cost of an integrated network minus the cost of a stand-alone network (p. 6), which is precisely the definition used in estimating the incremental costs of video services in Pacific Bell's proposed HFC-RF network. He also acknowledges that incremental cost is the correct price floor to prevent cross-subsides to video services from basic telephone rates:

> "We need not dwell on past bitter controversies about how common costs should be allocated...The critical consideration is that so long as each service bears no less than its incremental cost, no subsidy would flow from one to the other. (p. 7)

5. Beyond that conceptual agreement, Dr. Johnson's positions on other issues are founded upon a simple, but fundamental, misunderstanding of Pacific Bell's announced $16 billion capital investment over the next decade. He wrongly assumes that ALL of Pacific Bell's total capital budget of $16 billion is the cost of its broadband deployment and VDT proposal. In fact, only approximately 30% of Pacific Bell's announced $16 billion capital investment plan for the next ten years is related to broadband deployment to 5.5 million homes - less than $1000 per home passed. The remainder of the $16 billion will be spent on upgrading and replacing Pacific Bell's network in California. Evidently, Dr. Johnson missed what was widely reported in the press:

> "Pac Bell was already planning to spend $1.6 billion to $1.8 billion a year to upgrade its phone network with the latest equipment and fiber optic cable. So spending on the network will increase roughly only 30% under the new [$16 billion spending] plan."[1]

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[1] James Kim and Eric D. Randall, "Multimedia Gets Closer to Reality", USA Today 11/12/93, p. B1.

"For Pacific Bell, the rewards [of its strategic partnering with AT&T] are measured in time-to-market and per-line costs, which both sides say are well under the $1000-per-line target informally set within the telco/cable industries."[2]

"... The phone company starts its $16 billion project to wire San Diego and the state with fiber-optic strands and coaxial cable to carry television, telephone and data services...Pacific Bell officials say the whole project will cost about $1,000 per household."[3]

6. Interestingly, Dr. Johnson grossly overstates the cost of Pacific Bell's broadband network at $2900 per home passed, even though he cites a study -- one of the best available on residential broadband deployment -- that estimates the cost of broadband deployment at approximately $1200 per home. Moreover, there are several differences between the network architecture proposed by Pacific Bell and the one used by Dr. Reed in his study, which explain why Pacific Bell's network will cost even less than $1200 per home passed:

a. Dr. Reed's study assumed an overlay broadband network on a narrowband network for telephony services. Pacific Bell's

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[2] Carol Wilson, "In My Opinion: Beyond the Cliche" in Telephony, 11/22/93, p.5.

[3] James Crawley, "Who Should Pay Pac Bell's Toll on the Info Highway? Telephone Customers Shouldn't Get the Bill, Cable Industry Says," in San Diego Union Tribune, 1/16/94, page I-1.

network is a fully integrated fiber-coax network. Using an overlay of two networks would significantly increase deployment costs (for example, additional trenching would be required to install more cable).

b. Dr. Reed's study included a customer premises converter box and associated installation costs. While this is perfectly appropriate for his purposes, Pacific Bell's estimates explicitly did not include these elements, because the converter will not be owned by Pacific Bell, but by its customers or third party service providers. The converter costs added approximately $170 per home passed to Dr. Reed's cost estimates.

c. In Dr. Reed's "fiber to the curb" (FTC) network, fiber reaches all the way to the eight or sixteen-home level. This is a major difference in architecture, since Pacific Bell's network will deploy fiber only to the 480-home level and use coaxial cable for distribution from the optical network interface to the 480 homes. There are three major cost savings from Pacific Bell's architecture: (1) the number and cost of ONI's (including capital, installation and maintenance costs) is a large multiple (i.e., one ONI per 480 homes v. one ONI per 16 homes requires 1/30th the number of ONI's); 2) pushing fiber further out in the distribution plant sharply increases installation and maintenance costs of providing electric power sources in the network; and (3) Dr. Reed's FTC model requires eight fiber cables to groups of up to sixteen homes, or

approximately twenty-six sets of eight fibers; thus the FTC architecture requires approximately 210 fibers to serve 480 home versus 12 fibers in Pacific Bell's HFC architecture.

d. Dr. Reed's cost data were based on 1988 and 1989 technology. Dr. Reed did project the future cost of key components, but technological advances have already made some components completely unnecessary, while the cost of other components has dropped considerably below his projections.

7. Dr. Johnson's assumption of $2900 per home passed is also surpising because he could have easily derived the cost per home from data contained in the Pacific Bell filing and my testimony. The filing by Cox Enterprises in this proceeding demonstrates that it is a simple matter to use that information to estimate the cost per home passed of Pacific Bell's proposed HFC architecture:

> "Simple algebra determines that Pac Bell's underlying assumption is that a fiber/coax network for telephony alone can be built for $800/home."[4]

8. Having made that fundamental error - overstating Pacific's broadband deployment costs per home passed by a multiple of more than three - ALL of Dr. Johnson's empirical analysis and conclusions about the cost and financial viability of Pacific

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[4] Petition to Deny of Cox Enterprises, Inc. p.11.

Bell's VDT proposal are wrongly derived from, or premised on the $16 billion mistake. Among his most important errors, Dr. Johnson:

a. grossly overstates the cost of a telephony-only version of Pacific Bell's proposed HFC-RF network architecture; in fact, the stand-alone cost of a telephony only version of the HFC architecture is less than $1000 per home, a significant cost savings over the "present method of operations."

b. grossly overestimates the incremental cost of video services, by comparing the overstated $2900 per home passed to the cost of the present method of operations; in fact the incremental cost of adding video capability is only a small fraction of the cost of a telephony-only HFC network.

c. grossly overstates the price floor needed to prevent cross-subsidies to video services, because he bases the estimated price floor on the greatly overstated incremental cost of video services;

d. wrongly alleges that basic telephone rates would increase dramatically and that telephone ratepayers will have to subsidize Pacific Bell's broadband deployment, because he judges that revenues from video services cannot possibly recover his overstated cost of deploying the broadband network; and

e. wrongly alleges that Pacific Bell's revenues cannot recover the cost of its investment, so the project is not financially

viable without subsidies from basic telephone ratepayers; in fact, since the cost of the new network will cost one-third as much as Dr. Johnson assumed, the forecast revenues will make the project financially viable with no subsidy from telephone ratepayers and no increase in basic telephone rates.

9. In Appendix 1, I have presented excerpts of Dr. Johnson's testimony, showing the extent to which all of his analyses and opinions are based upon a fundamental error -- an overstatement of the cost per home passed that is three times too high! Were Dr. Johnson correct in his starting point, his inferences would also be correct:

a. $2900 per home passed **WOULD BE** a "ludicrous" amount to spend on a broadband network and would not be financially viable;

b. **IF** Pacific Bell were spending $2900 per home passed, the incremental cost of video would surely be very large, since $2900 is substantially more than the stand-alone cost of the present method of providing telephony-only service.

10. Because his premise is so far wrong, though, his inferences are also wrong. The fact is that Pacific Bell, in a strategic alliance with AT&T as its supplier of equipment and installation services, has developed an improved integrated broadband network architecture with costs markedly less than current alternatives. It is precisely because of the inherent efficiency of this proposed network design and the size of the deployment commitment that the

incremental costs of offering video services are so low and the project is financially viable with reasonable revenue assumptions.

11. Dr. Johnson also questions Pacific's plan to replace existing plant, arguing that the proposed HFC-RF network would offer "dubious added value for telephony," since a "well-running network is already in place (p. 4):

> "It is ludicrous to suggest that the best way to continue providing 'conventional telephony-only' service is to rip out the existing network and substitute coaxial cable and fiber to 1.3 million California homes in less than three years and to add another 4 million homes by the end of the decade, with the rest to follow in a later expansion." (p. 19)

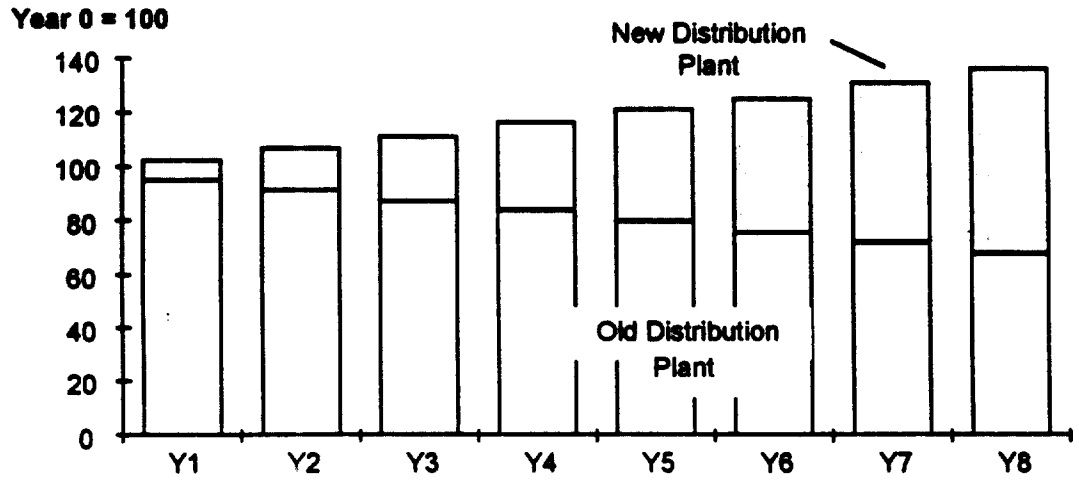
12. Dr. Johnson's skepticism about Pacific Bell's plan derives, no doubt, from his mistaken impression about the total cost of the HFC network replacement. Beyond that mistaken premise, though, I strongly disagree with his argument that it is not economically rationale to replace existing telephone plant, for several reasons:

a. It is sound economics and therefore quite common for companies to replace capital in place when there is technological progress. Automobile manufacturers have spent billions replacing existing manufacturing capacity with more modern plants, because the operational cost savings and higher quality products justified the investments. The economic rationale is the same for Pacific Bell: operational cost

savings and added revenue potential offset, in present value terms, the capital investment. I assume it is also the economic rationale for cable systems operators, who are rapidly replacing their existing plant, from coaxial to fiber trunks, analog to digital transmission and from one-way to interactive networks, as shown in Appendix 2.

b. Dr. Johnson implies that the existing copper plant is fixed and static. In fact, Pacific Bell's outside plant has been and would continue to be replaced and expanded throughout this period, even if Pacific did not deploy its HFC broadband network. Historically, Pacific replaces 4% of its outside plant per year and will install an additional 4%, due to growth in subscriber lines (approximately California's long-term trend growth). Hence, as shown in Figure 1, roughly 50% of all distribution plant would be new in eight years, even without the deployment of a new network architecture.

Figure 1
Growth in New Distribution Plant



c. While it is true that copper plant has been underdepreciated under regulated depreciation rates,[5] that should not be allowed to bias the company against the deployment of new technologies. The regulatory overhang of underdepreciated assets and capital reserve deficiencies is a separate matter from the economic soundness and financial viability of a capital investment decision. I would note, in this regard, that depreciation rates in the cable television industry are more than double those of local exchange telephone companies.[6] Imagine what cable rate reductions would be required under cost-of-service regulation if cable companies were required to underdepreciate their assets as telephone companies are required to do.

13. Dr. Johnson quotes a recent report of the California Public Utilities Commission to suggest that the existing network may be adequate to support advanced telephony services:

> "As a recent California PUC report concludes '[M]ost existing applications of advanced telecommunications can be handled without broadband. Further, with recent developments in compression and "digital signal processing" -- techniques which offer dramatic gains in the efficiency of

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[5] Pacific's experience is that outside plant is typically replaced before it has been fully depreciated

[6] "Regulatory Reform for the Information Age," Strategic Policy Research: Bethesda, Maryland, January 11, 1994, pages 36-40.

> transmitting digital signals -- it is possible to deliver over existing copper lines many services that previously required new broadband capacity -- saving billions of dollars for more cost-effective infrastructure investment'." (p. 18)

14. A fair reading of that CPUC report could just as well support Pacific Bell's broadband deployment proposal, which no doubt explains why the California Commission has officially filed its support of Pacific Bell's proposal to the F.C.C. In the report cited by Dr. Johnson, moreover, the Commission noted that

> "Differences in opinion among some witnesses with respect to specific technologies underscores the risk of endorsing any particular technology and reinforces our conclusion that adopting a technology-specific path is unwise."

15. Most importantly, the CPUC report proposes that its 1989 regulatory reforms

> "be redefined and greatly enlarged to further allow the two largest telephone companies[7] to invest on their own initiative, and to fully bear the risks and rewards of such investments." (p. 28)

What Pacific Bell is requesting in this proceeding is the opportunity to take such initiative, understanding that regulatory

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[7] Referring to Pacific Bell and General Telephone.

conditions and pricing requirements will -- as they should -- require Pacific's shareholders to fully bear the risks of the proposed investment.

16. Dr. Johnson argues that price regulation does not protect against cross-subsidies. He dismisses rate protection from price cap regulation on the grounds that potential rate stability ignores possible rate decreases:

> "To avoid a subsidy burden, telephone ratepayers must receive whatever rate decreases they would have enjoyed in the absence of the advanced network." (p. 33)

Dr. Johnson is ignoring the fact that, in California, basic rates are well below long-run incremental cost, so the current CPUC price index may allow rates to move toward cost, but not above cost.[8] So long as rates are below cost, there is no subsidy from basic ratepayers and Pacific has no possibility of shifting costs into basic rates due to the price index, which is exogenous to Pacific's costs. Moreover, and most importantly, as long as video services recover their incremental costs, there is no cross-subsidy from basic rates. On this point, I agree with Dr. Johnson, who acknowledges in his testimony that: "...so long as each service

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[8] Whether local exchange prices actually move toward cost depends on the productivity factor employed in the price cap formula relative to changes in the actual economic costs of providing local exchange service.

bears no less than its incremental cost, no subsidy would flow from one to the other." (p. 7).

B. Testimony of Terry Murray

17. Ms. Murray's testimony is directly at odds with the testimony of Dr. Johnson on issues related to common and incremental costs. It is also at odds with well-accepted economic theory, including numerous articles authored by Dr. Johnson.[9] Whereas Dr. Johnson correctly defines the incremental cost of video services as the difference between the stand-alone cost of providing telephony-only access and the combined cost of access to an integrated telephony+video network, Ms. Murray suggests that the cost of access is a common cost of usage, which it decidedly is not. The cost of providing access to the telephone network does not vary with usage; that cost is the same whether a user makes one call a month or a thousand calls a month. Because the cost of providing access to the network are not sensitive to usage, that cost should

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[9] For example, Dr. Johnson discussed the use of incremental costs in a recent paper, "Price Caps in Telecommunications Regulatory Reform," A Rand Note, January 1989:

> "As long as each service is priced so that it covers its long run incremental costs, it does not burden users of other services, so that the system is subsidy free." (p.26-27.)
>
> "Incremental costs are to be carefully distinguished from fully distributed costs that involve an arbitrary allocation of common costs among the firm's services. The use of fully distributed cost methodology in establishing rates has been severely criticized by economists and others." (p.27, footnote 4).

be recovered through a fixed monthly charge.[10] The costs of using the network do vary with the quantity used and should therefore be recovered in usage prices. This logical separation of "traffic-sensitive costs" and "non-traffic sensitive costs" applies both to the costs and pricing of telephone access and usage, and to video services access and usage.

18. From this incorrect theoretical premise, Ms. Murray goes on to contend that:

> "The methodology underlying that [telephony's $25 LRIC] estimate is completely inconsistent with the methodology that Dr. Harris applies to determine the incremental cost of Pacific Bell's video dialtone service." (p.4-5)

19. Ms. Murray is completely mistaken in her contention that Pacific is using inconsistent methodology. Pacific is required to provide telephony services as part of its franchise obligation. It is proposing to invest in a new technology that will reduce the fixed cost of providing network access to its telephone customers over the long run. In his testimony to the CPUC, Mr. Scholl

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[10] The cost of network access is analogous to the cost of a television: neither varies with usage. In Ms. Murray's scheme, the cost of a television would be a common cost of "local" and "long-distance" usage (i.e., watching programs originated locally versus watching programs that are imported from a distance). In that event - if Ms. Murray were regulating the television industry - the prices of televisions would depend on the amount of usage, because the more they are used, the more "common costs" would be allocated to them. Under that scheme, televisions would be priced well below today's levels, but customers would pay additional fees for using them!

offered evidence of the LRIC of providing network access with current technology - copper twisted pairs. Given that the current network is not capable of providing access to video services, all of the fixed costs of providing access are directly caused by the subscriber upon ordering telephone service, whether or not the line is ever used. Hence, the LRIC of providing network access properly includes all of the fixed costs of outside plant and none of the costs of usage.[11] With the new HFC technology, the same network can be used to provide access to both telephony services and video services, thereby becoming a "dual-use system." For that reason, the LRIC of providing access to video services is the difference between the stand-alone cost of a telephony-only network and the cost of a network capable of providing access to both telephony and video services.

20. Ms. Murray questions the competitive benefits of Pacific's proposal by arguing that entry by Pacific Bell into the video services market will not encourage CATV companies to upgrade their networks, because of a regulatory ban on providing telephony in California (p. 8). She claims that "Pacific Bell has actively sought and supported the CPUC's ban on local competition in California," (p. 9) and that Pacific Bell has also opposed other

[11] Mr. Scholl's estimate of LRIC for basic residential service also included the average cost of local calling, not because those costs are fixed, but because most local calling provided by Pacific is free under CPUC regulations.